IN THE DRAWINGS:

Please enter the Replacement Sheet accompanying this Amendment for Figs. 7A and 7B. The Replacement Sheet includes the following changes:

--In Fig. 7B, in the first block of the flowchart, change "MESSAGE TRANSMISSION PROCESSING" to read "MESSAGE RECEPTION PROCESSING".--

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REMARKS

This application has been carefully reviewed in light of the Office Action dated June 29, 2005. Claims 21 to 25, 28, 29, 31 to 36, 39, 40 and 42 remain pending in the application, with Claims 26, 27, 30, 37, 38 and 41 having been canceled. Claims 21, 32 and 42 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Figure 7B of the drawings has been amended to correct a typographical error. Specifically, the first block of the flowchart should read "MESSAGE RECEPTION PROCESSING" instead of "MESSAGE TRANSMISSION PROCESSING". A Replacement Sheet which incorporates the foregoing changes accompanies this Amendment. No new matter has been added.

Claims 21, 30, 32 and 42 were rejected under 35 U.S.C. § 112, first paragraph and Claims 21, 32 and 42 were rejected under 35 U.S.C. § 112, second paragraph. With regard to the first paragraph rejections, Applicant wishes to direct the Examiner's attention to the description provided in the specification from page 22, line 25 to page 29, line 22, in conjunction with Figures 5 and 6 for a detailed description of the features of the claimed invention in question. With regard to the second paragraph rejections, the subject matter in question has been amended to make it even clearer. In view of the foregoing, withdrawal of the § 112 rejections is respectfully requested.

Claims 21 to 42 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,665,082 (Takeoka) in view of U.S. Patent No. 5,815,283 (Watanabe). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention of independent Claims 21, 32 and 42 concerns DMA transfer of packets between a first communication unit and a second communication unit. According to the invention, a fixed packet length is decided based upon information related to an upper limit packet length in which a packet is capable of being transferred by the second communication unit and information related to an allowable packet length in which

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a packet is allowable of being transferred by the first communication unit. Then, a plurality of packets having the fixed packet length are generated by dividing variable length data to be transferred from the first unit to the second unit into a plurality of packets. The generated packets are stored, and a DMA controller controls transfer of the plurality of packets having the fixed packet length stored in the storage unit to the second device. As a result, if the length of the packets transferred by the first unit is set based on the size of packets that the second device can receive so as to more readily ensure proper transmission and reception of the packets.

For the Examiner's convenience, Applicant wishes to point out that the features of the amended claims are supported by at least Figs. 6A and 6B, and the description at page 24, line 11 to page 25, line 4 of the specification. Specifically, the claimed "fixed packet length" can be seen to correspond to "PLen", an upper limit packet length can be seen to correspond to "PLCmax", and an allowable packet length can be seen to correspond to "PLRmax". Additionally, the claimed "first communication unit" can be seen to correspond to reader 200 (MPU 228), the second communication unit can be seen to correspond to controller 110 (I/O controller 126), and the variable length data can be seen to correspond to message-data string.

Referring specifically to the claims, amended independent Claim 21 is a data communication system comprising a first data communication unit, and a second data communication unit communicating with the first data communication unit, one of the first and second data communication units comprising a deciding unit adapted to decide a fixed packet length based upon information related to an upper limit packet length in which a packet is capable of being transferred by the second data communication unit and information related to an allowable packet length in which a packet is allowable of being transferred by the first data communication unit, and wherein the first communication unit comprises a generating unit adapted to generate a plurality of packets having the first data fixed packet length decided by the deciding unit, by dividing variable length data to be

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transferred from the first data communication unit to the second data communication unit into the plurality of packets, a storage unit adapted to store the plurality of packets generated by the generating unit, and a DMA controller adapted to control DMA transfer of the plurality of packets having the fixed packet length stored in the storage unit to the second data communication unit.

Amended independent Claims 21 and 32 are system and apparatus claims, respectively, that substantially correspond to Claim 42.

The applied art, alone or in any permissible combination, is not seen to disclose or to suggest the features of the present invention, and in particular is not seen to disclose or to suggest at least the feature of deciding a fixed packet length based upon information related to an upper limit packet length in which a packet is capable of being transferred by a second communication unit and information related to an allowable packet length in which a packet is allowable of being transferred by a first data communication unit.

Takeoka is seen to disclose that a printer controller 10 transmits image data to a printer 20 as a packet. The printer controller 10 reads out of a main memory an amount of transmission data which is transmittable in one packet, and generates a packet of the format shown in Fig. 22 using the read transmission data. (see, for example, column 11, line 61 to column 12, line 1) Thus, the printer controller 10 of Takeoka only generates a packet from an amount of transmission data which is transmittable in one packet, but does not generate a packet having a fixed packet length where the packet is generated based upon information related to an upper limit packet length in which a packet is capable of being transferred by a second communication unit *and* information related to an allowable packet length in which a packet is allowable of being transferred by a first communication unit. Accordingly, Takeoka is not seen to disclose or to suggest the features of independent Claims 21, 32 and 42.

Watanabe is not seen to add anything that, when combined with Takeoka, would have resulted in the present invention. In this regard, Watanabe is merely seen to disclose that a basic unit 1 has a system DMA controller 23 for high-speed data transfer between devices. Thus, while Watanabe may disclose DMA communications, it nonetheless fails to disclose or to suggest anything with regard to deciding a fixed packet length based upon information related to an upper limit packet length in which a packet is capable of being transferred by a second communication unit and information related to an allowable packet length in which a packet is allowable of being transferred by a first data communication unit. Accordingly, Watanabe, when combined with Takeoka, would not have resulted in the present invention.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our address given below.

Respectfully submitted,
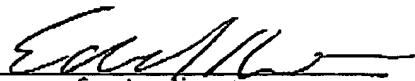
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